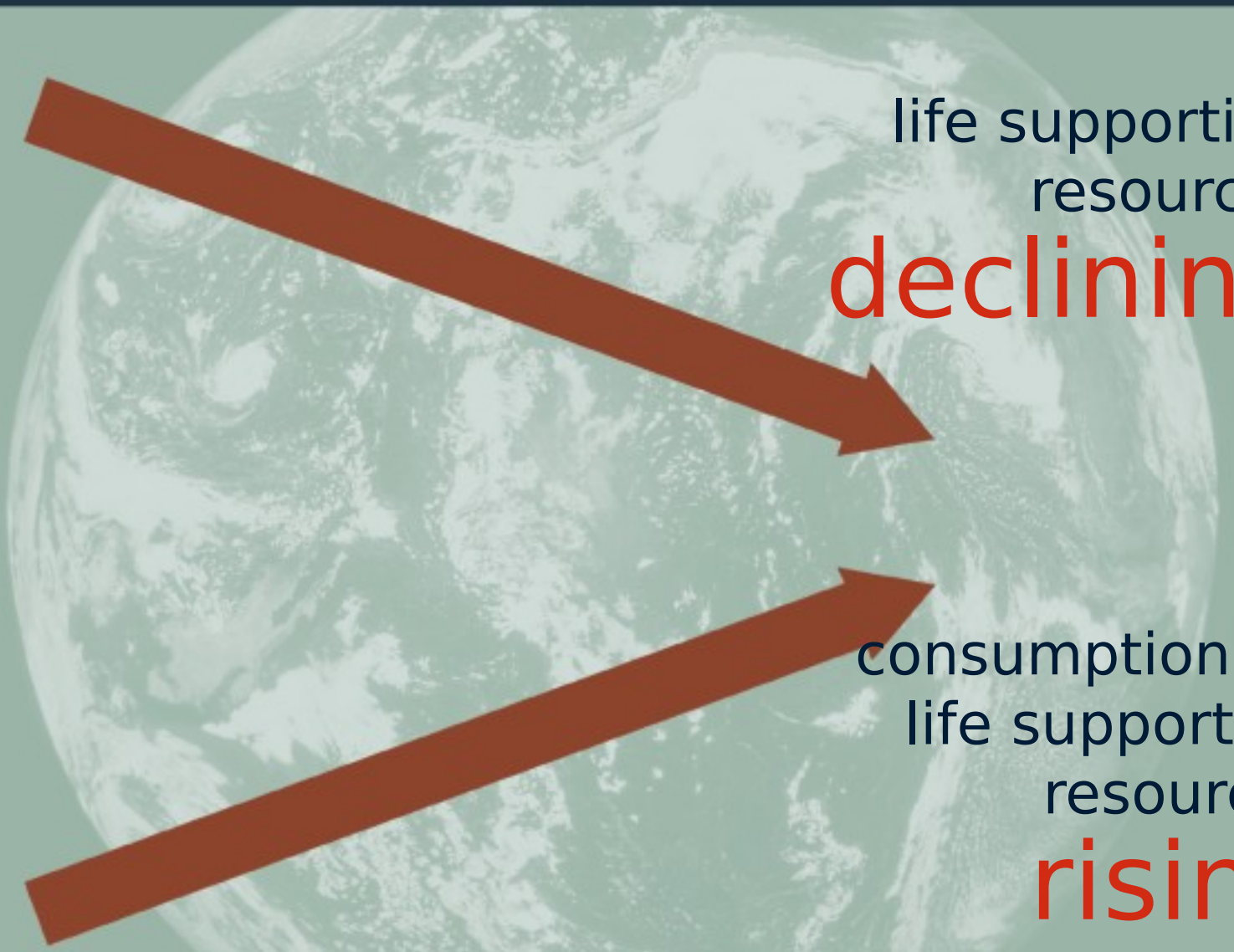
Army Installation Sustainability Program

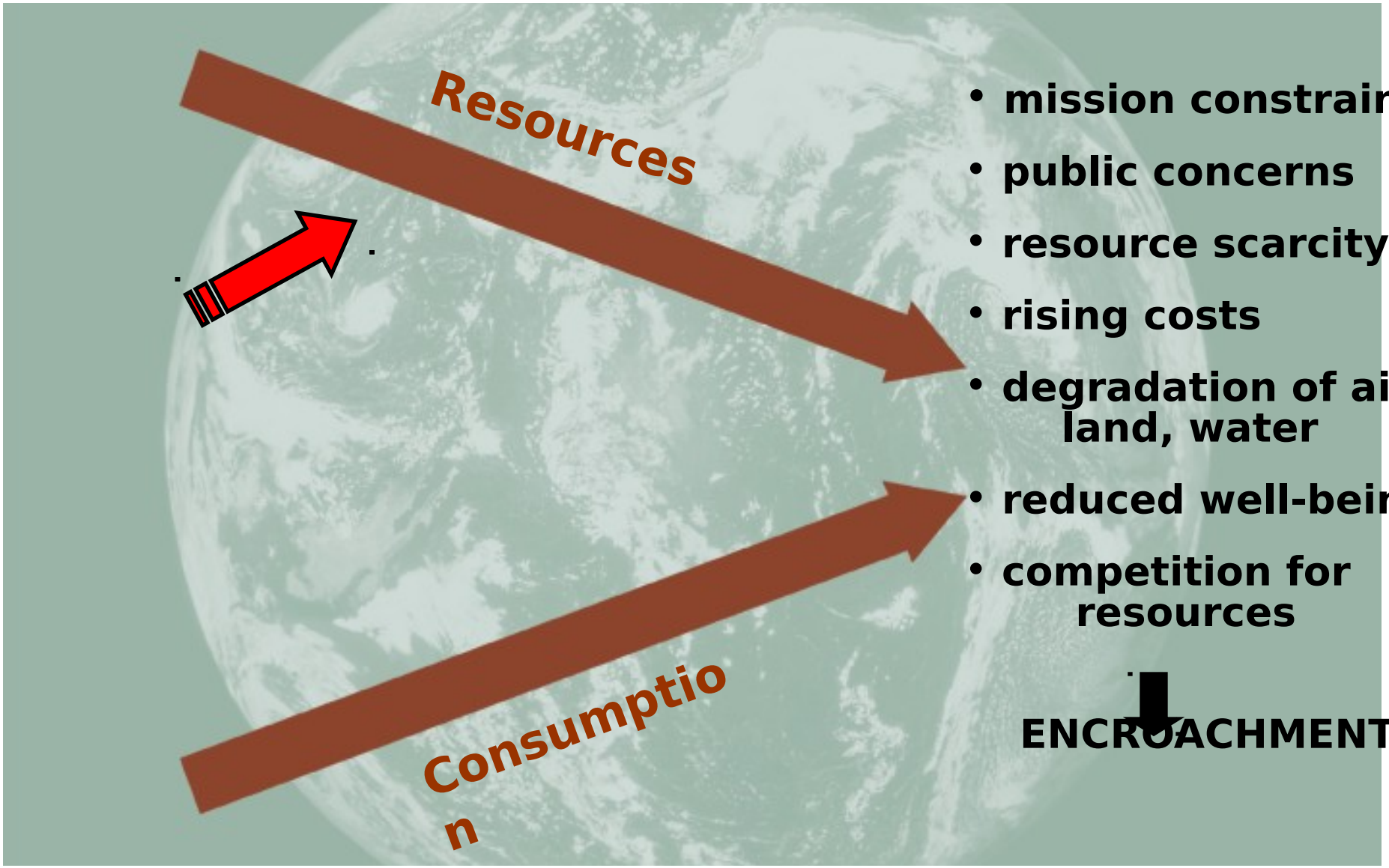
Rudy E. Stine
Chief, SERO Environmental Branch
30 Oct 03

A Global Perspective

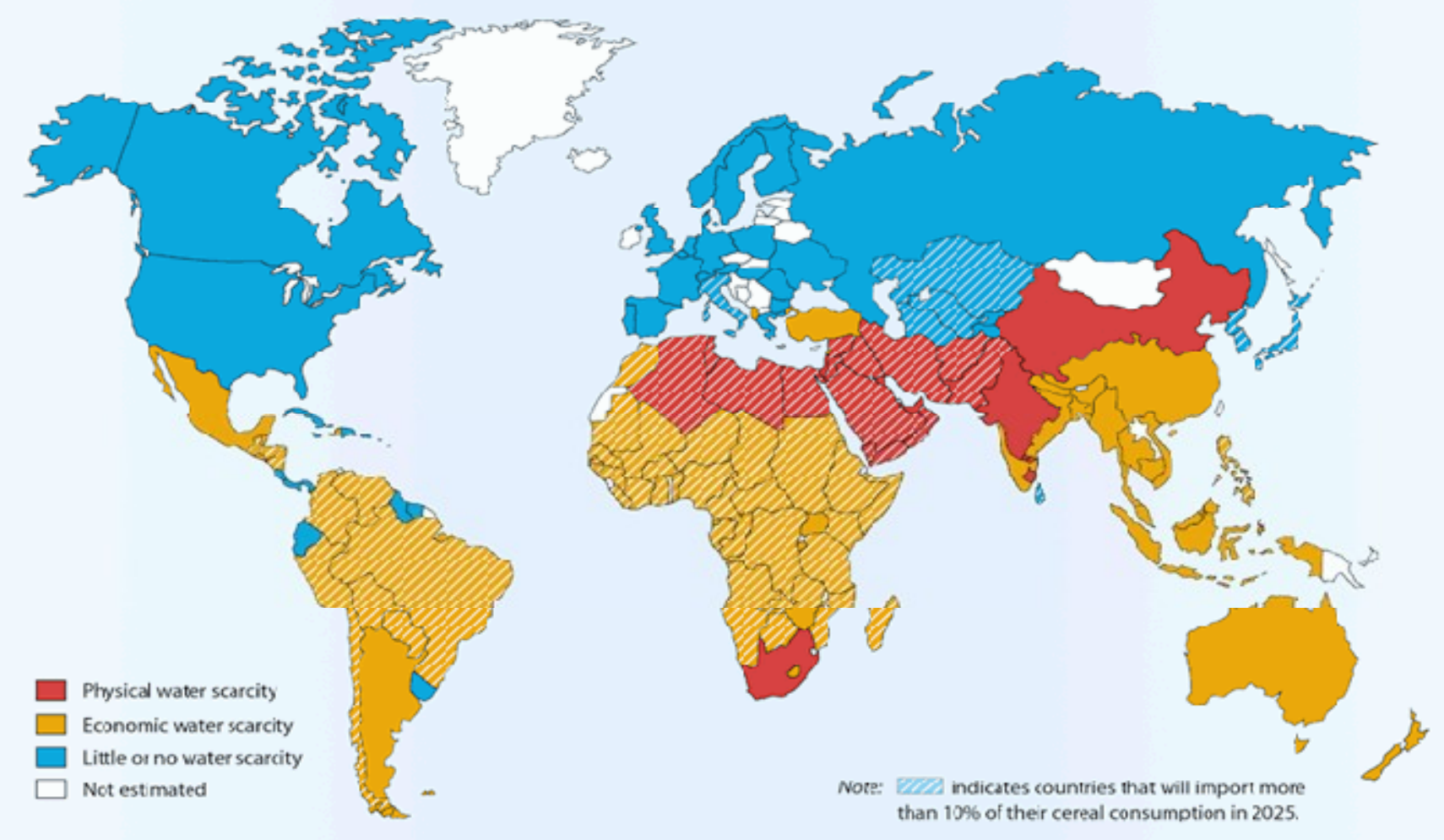


Installations hitting the wall

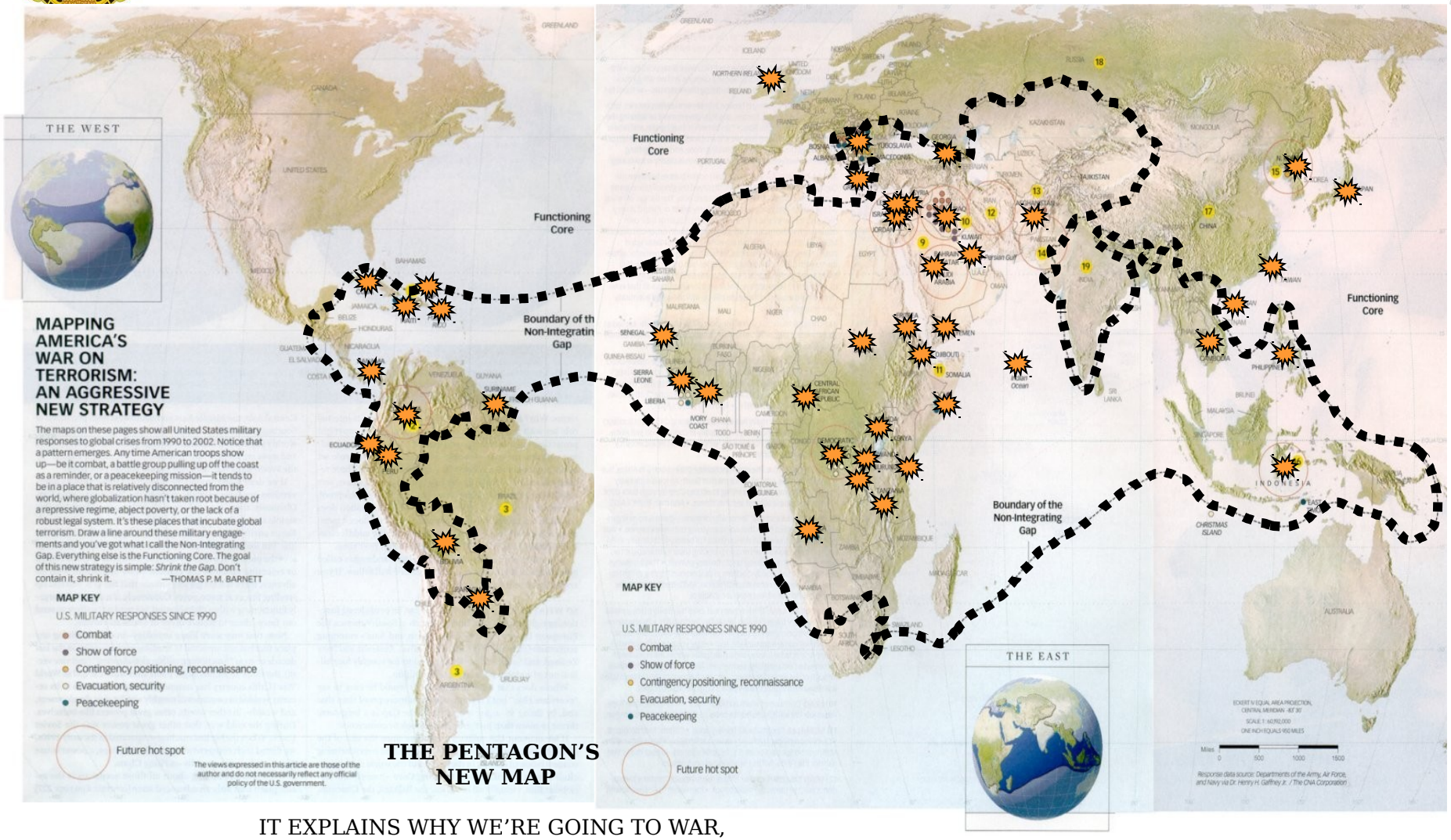
SERO



Water Scarcity


Physical water scarcity
Economic water scarcity
Little or no water scarcity
Not estimated
Note: indicates countries that will import more than 10% of their cereal consumption in 2025.

Source: International Water Management Institute 2002


THE WEST
MAPPING AMERICA'S WAR ON TERRORISM: AN AGGRESSIVE NEW STRATEGY
The maps on these pages show all United States military responses to global crises from 1990 to 2002. Notice that a pattern emerges. Any time American troops show up—be it combat, a battle group pulling up off the coast as a reminder, or a peacekeeping mission—it tends to be in a place that is relatively disconnected from the world, where globalization hasn't taken root because of a repressive regime, abject poverty, or the lack of a robust legal system. It's these places that incubate global terrorism. Draw a line around these military engagements and you've got what I call the Non-Integrating Gap. Everything else is the Functioning Core. The goal of this new strategy is simple: Shrink the Gap. Don't contain it, shrink it. —THOMAS P. M. BARNETT
MAP KEY
U.S. MILITARY RESPONSES SINCE 1990
Combat
Show of force
Contingency positioning, reconnaissance
Evacuation, security
Peacekeeping
Future hot spot
The views expressed in this article are those of the author and do not necessarily reflect any official policy of the U.S. government.
Functioning Core
Boundary of the Non-Integrating Gap
THE EAST
Response data source: Departments of the Army, Air Force, and Navy via Dr. Henry H. Gaffney Jr. / The CNA Corporation

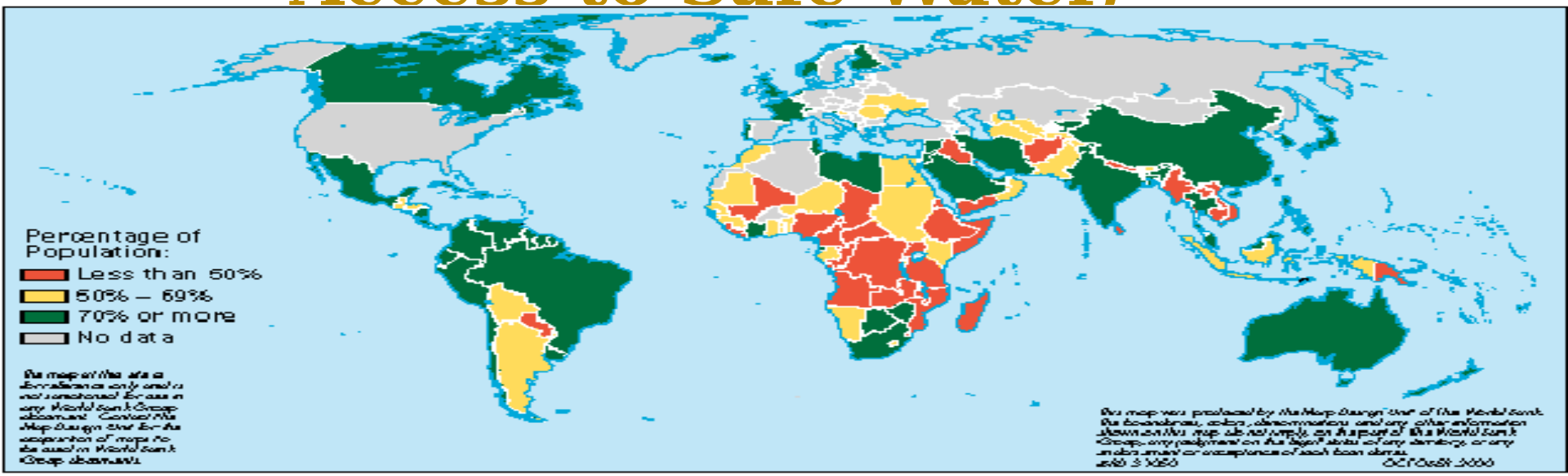
THE PENTAGON'S NEW MAP

IT EXPLAINS WHY WE'RE GOING TO WAR, AND WHY WE'LL KEEP GOING TO WAR.

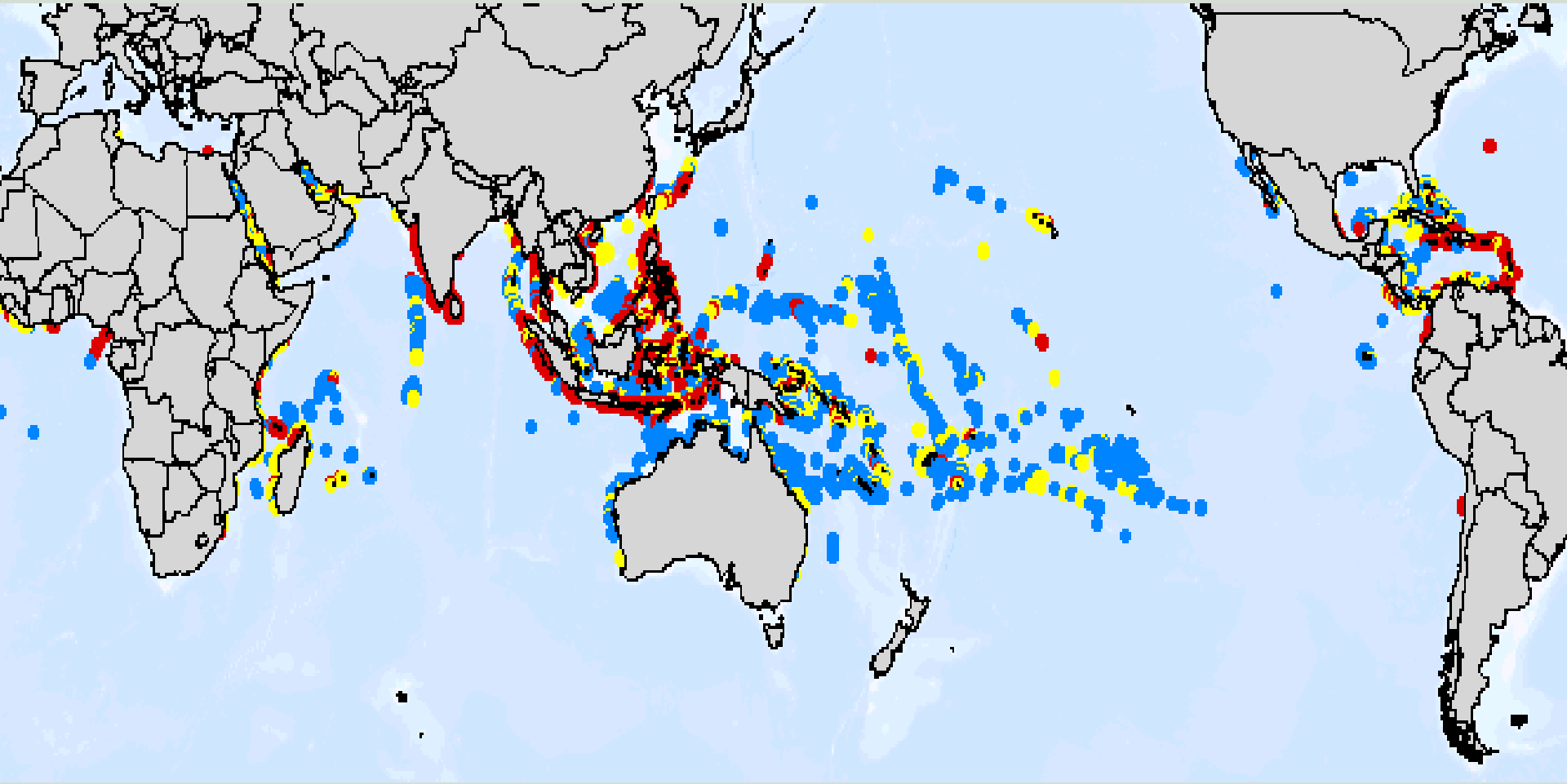
BY
THOMAS P.M. BARNETT, U.S. NAVAL WAR COLLEGE
[MAPS BY WILLIAM MCNULTY]

From Esquire, March 2003 issue

Access to Safe Water.



Reefs at Ris



Source: *World Resources*

Please dim the lights for the movie.

Sustainability in a Nutshell

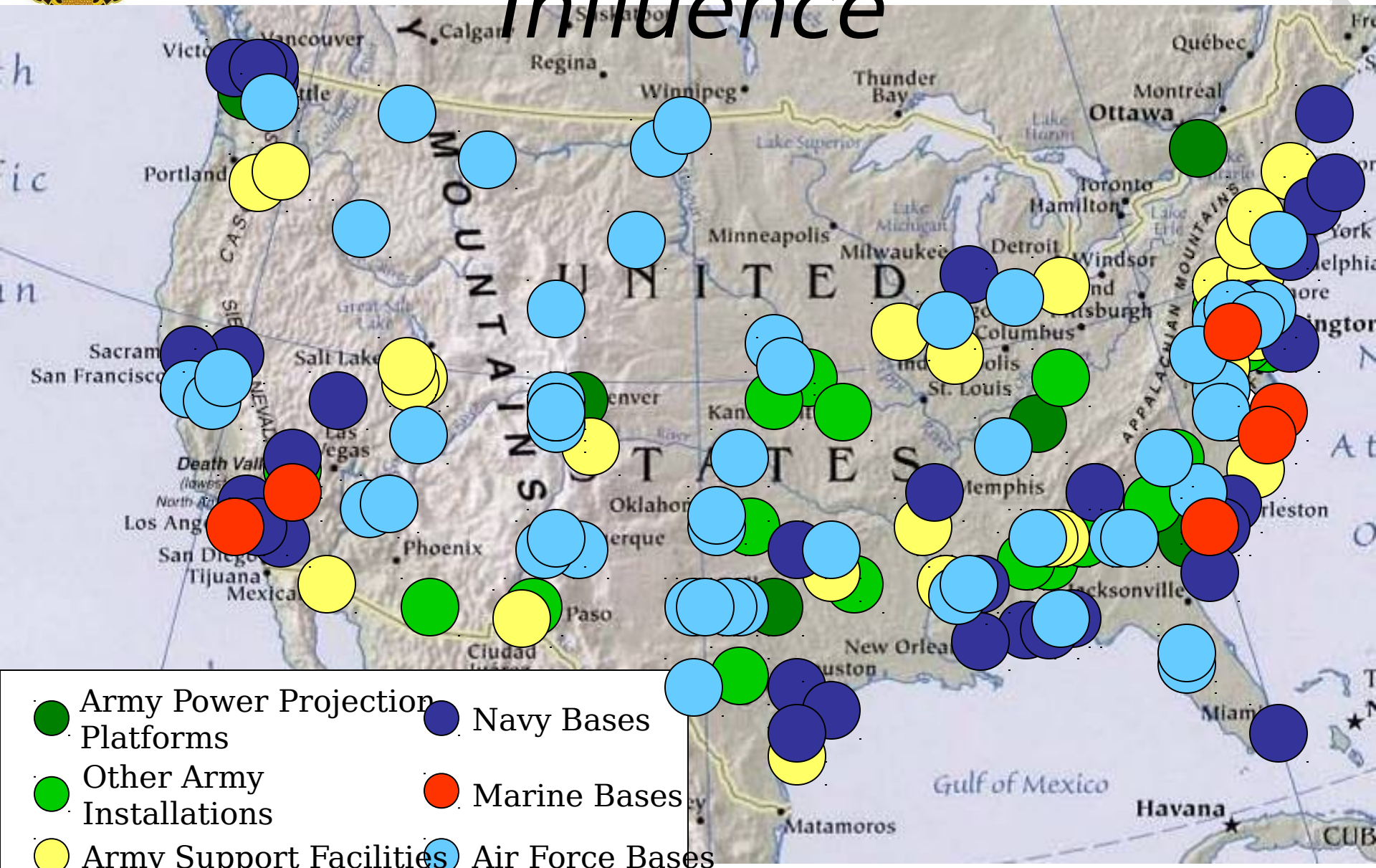
SERO

Dancing with the TIGER
BELIEVING CASSANDRA
The Ecology of Commerce
Paul Hawken
THE NATURAL STEP FOR BUSINESS
WEALTH, ECOLOGY AND THE EVOLUTIONARY CORPORATION
BIOMIMICRY
Mid-Course CORRECTION
Cool COMPANIES
How the Best Businesses Boost Profits and Productivity by Cutting Greenhouse Gas Emissions
Joseph J. Romm
Henry Ford Today and Tomorrow

Lessons Learned from the Business Community

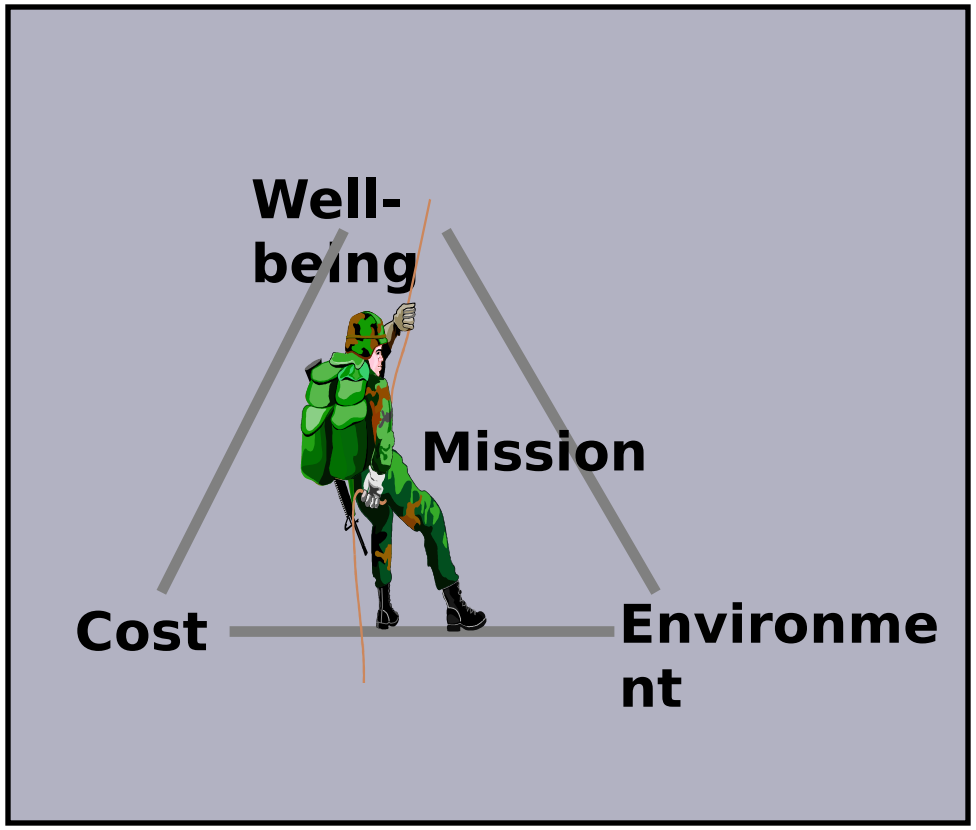
- We're on a collision course with nature … AND … there's a profitable way out
- Economic productivity, individual and community needs, and environment ***are interdependent***
- It's the system—The Army needs to create sustainable installations in sustainable communities
- New/emerging technology greatly reduces environmental impact, at the same or better level of effectiveness.

Military Sphere of Influence



Sustainability is…

- The quest to optimize the “triple bottom line” - people, profit, planet
- In our terms - mission, wellbeing, cost, and environment



Design Parameters for a Sustainable Installation

- **Optimizes military training/mission**
- **Provides for the well-being of soldiers and families**
  - ***Good facilities***
  - ***Strong cultural/community services***
- **Has a mutually-beneficial relationship with the local community**
- **Is life-cycle cost-effective to operate**
- **Sustains community/regional natural resources**
  - ***Uses renewable energy and biodegradable materials***
  - ***Operates within it's fair share of resources***
  - ***Restores/enhances ecosystems***

The United States Army – The Journey Begun

- Facilities
  - Sustainable Design and Development Policy
  - SPiRiT standards
- Ranges
  - Sustainable Range Design R&D Program
- Weapons Systems
  - Green ammunition R&D program
- Installations
  - Installation Sustainability Program
  - Army Compatible Use Buffers/Private Lands Initiatives

Army Installation Sustainability Program

SERO

- **Long-range strategic program and plan to ensure continued ability to operate our installations**
  - ✓ **Discuss <u>significant</u> environmental impacts that threaten viability with key stakeholders**
  - ✓ **Establish 25 year strategic goals to reduce those impacts**
  - ✓ **Develop 5-year plans with objectives, targets, and resource requirements**

Army Installation Sustainability Program

- FY 01 Fort Bragg (Pilot)
- FY 02 Fort(s) Lewis, Hood, Carson
- FY 03 Fort(s) Campbell, McPherson, Bragg Phase 2
- FY 04 Transition to Army-wide program –
  - ✓ Carson, Lewis, Hood – phase 2
  - ✓ Benning, Rucker, Polk, Eustis
  - ✓ Stewart, Knox, Irwin, etc?
- Directly applicable to power projection, power support platforms, training centers (28 total)
  - ✓ Industrial base?

Fort Bragg
AIRBORNE
AIRBORNE
AIRBORNE
Home of the Airborne & Special Operations

Resource Issues That Could Threaten the Ft. Bragg Mission

- **An estimated 125,000 acre training shortfall – and a community growing up against the fenceline**
- **Degraded air quality, which soon will not meet federal standards for ozone and particulate matter – perhaps resulting in constraints on smoke/obscurant use, construction, and transportation**
- **A water demand of over 3 billion gallons each year from the Little River– while the upstream Raleigh-Durham community demand for water from the same river is growing exponentially**
- **Skyrocketing resource costs: $30M/year for energy alone**

Fort Bragg Sustainability Accomplishments – since 2001

- Reduced potable water usage by 30%
- Converted all concrete demolition rubble into road aggregate for training land restoration
- Increased solid waste diversion rate to 59%.
- Established a neighborhood recycling program
- Started construction on a 36,000+ sq foot "gold" facility for the Golden Knights Parachute Team,
- Revised Installation Design Guide to incorporate SPiRiT, the Army's green building standards.
- Completed a Joint Land Use Study
- Created a seven-county GIS database used by all counties to make integrated land-use decisions.
- installed solar and wind-powered exterior lights which are completely off the grid
- Converted all 150 non-tactical vehicles to alternative fuels
- Using biodiesel in all Range Control diesel vehicles.
- implemented an on-post shuttle bus service that connects with the city bus system
- incorporated both pedestrian and bicycle paths into all construction projects.
- Identifying local sources of procurement for commonly used items
- Established Sustainable Sandhills regional partnership with our 6 surrounding counties

The list goes on and on - INCREDIBLE progress in 2 short years, all without huge investments of $$s – by people pulling together towards common goals.

Bragg Early Successes

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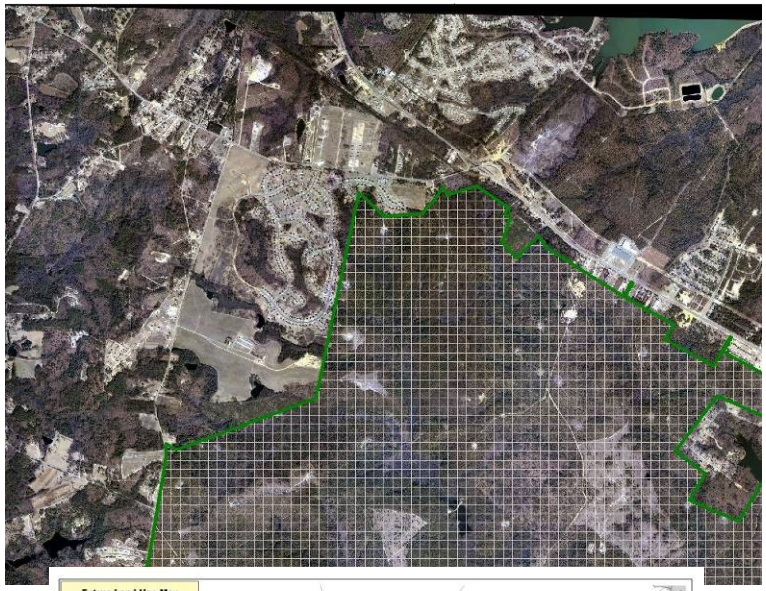
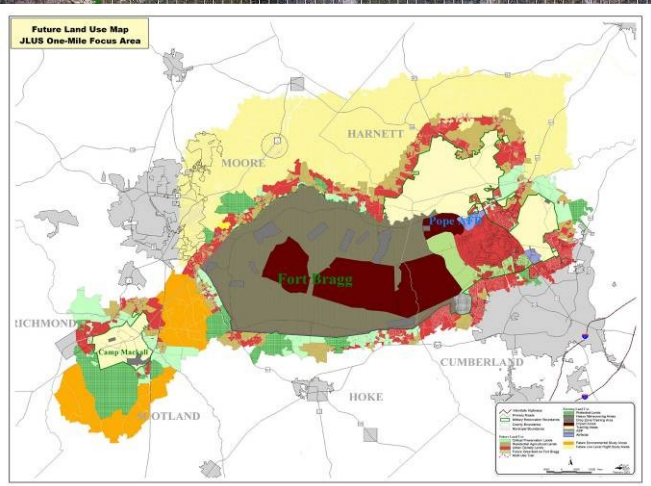
Land Use Team:

- **Development of a 6-county and Fort Bragg GIS for use by all county and municipality planners to assist in land-use decisions and in conservation opportunities.**





Fort Bragg/Pope Air Force Base Proposed Future Land Use Map

Bragg Early Successes

Water Supply Team:

- **Reduced Potable Water Consumption by 30% in 2002**

Fort Bragg Strategic Campaign Plan Worksheet FY04-FY13

FB Goal #3: Ensure long-term environmentally sustained installation through planning and management.

Activity POC	Objective/Strategy		Measure	FY04 Goal	Red	Amber	Green	FY05 Goal	FY06 Goal	FY07 Goal	FY08 Goal	FY09 Goal	FY10 Goal	FY11 Goal	FY12 Goal	FY13 Goal	FY14 Goal	Fys 15-25 Goal
PWBC	3.1. Reduce the amount of water taken from the Little River by 70 percent by 2025; (goal is 2.5 MGD with baseline 8.5 MGD).		C-Status															
	Heins	3.1.1. Implement permanent water conservation policy.	Ave MGD treated water	8.075 MGD	<8.245 MGD	8.245 MGD	>8.245 MGD	7.99 MGD	7.735 MGD	7.48 MGD	7.225 MGD	6.71 MGD	6.46 MGD	5.95 MGD	5.44 MGD	4.93 MGD	4.42 MGD	2.55 MGD
PWBC	3.2. All water discharged from Fort Bragg will meet or exceed the North Carolina State High Quality Water (HQW) standard by 2025 (indicators being developed).		C-Status															
	Craig Lane	3.2.1. Design construction projects to HQW standards	% construction projects designed to HQW standards;	10%	1-3%	4-7%	8-10%	15%	20%	25%	30%	40%	50%	60%	80%	100%	100%	100%
		3.2.2. Perform baseline sampling of reservation streams	%complete baseline sampling of primary reservation streams	100%	<30%	31-60%	>60%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PWBC	3.3. Landfill wastes will be aggressively reduced toward zero by 2025		C-Status															
	Wirt	3.3.1. Implement programs to divert and reuse solid waste.	% solid waste diverted from landfill	50%	<20%	21-40%	>40%	60%	65%	70%	75%	80%	85%	90%	95%	100%	100%	100%
PWBC	3.4. Meet minimum platinum standard for all construction and renovate 25 percent of all existing structures to at least a bronze standard by 2020 using SPiRiT.		C-Status															
	Rob Hains	3.4.1 Include Sustainable Project Rating Tool - SPiRiT in military construction Request for Proposals.	%of constr. solicitations that include SPiRiT	100%	<30%	31-80%	>80%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
			% of MCA awards meeting SPiRiT stds	90%	<30%	31-60%	>60%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
			% of OMA awards meeting SPiRiT stds	75%	<25%	26-50%	>50%	80%	85%	90%	95%	100%	100%	100%	100%	100%	100%	100%

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Managing for Sustainability:

Fort Lewis Sustainability Program

Fort Lewis Sustainability Program Accomplishments

- Air Team
  - Temporary CNG station - 5 August
  - Biodiesel use – FY04
  - Initiated use of low-VOC CARC at DOL
- Water Team
  - Plan development for reuse of wastewater starting 2007
- Infrastructure/Energy Team
  - Photovoltaic trailer on-site for pilot - 2 August
  - FLW construction policy – LEED silver
  - Pilot site for LEED-EB building renovation
- Products and Materials Team
  - Dry Cleaning - liquid carbon dioxide
  - SW contract to increase SW diversion
  - Vehicle maintenance facility recycling
- Training Lands Team
  - Private Lands Initiative – Army Compatible Use Buffers

Fort Lewis-Washington Sustainability Partnership

- 30 Oct 2003:
  - Host a Sustainability Education Day for Military Leadership to Set Stage for Further Action
- Winter 2003:
  - Installations Crossfeed Individual Sustainability Goals
  - Look for Common Regional Goals
  - Discuss Establishing Regional Senior Leadership Program
- Spring 2004:
  - Invite other Federal Agencies into a Partnership - leverage resources and expertise
- Summer 2004:
  - Invite State Agencies into the Partnership – more leveraging and learning

Installation Sustainability Program

"We will either set up this stuff now and work towards these goals… or I will set up my successors 10-15 years now for a certain fall. We won't do that."

LTG Hill
I Corps Commander,
Fort Lewis
7 Feb 02

Fort Hood Regional Sustainability Initiative

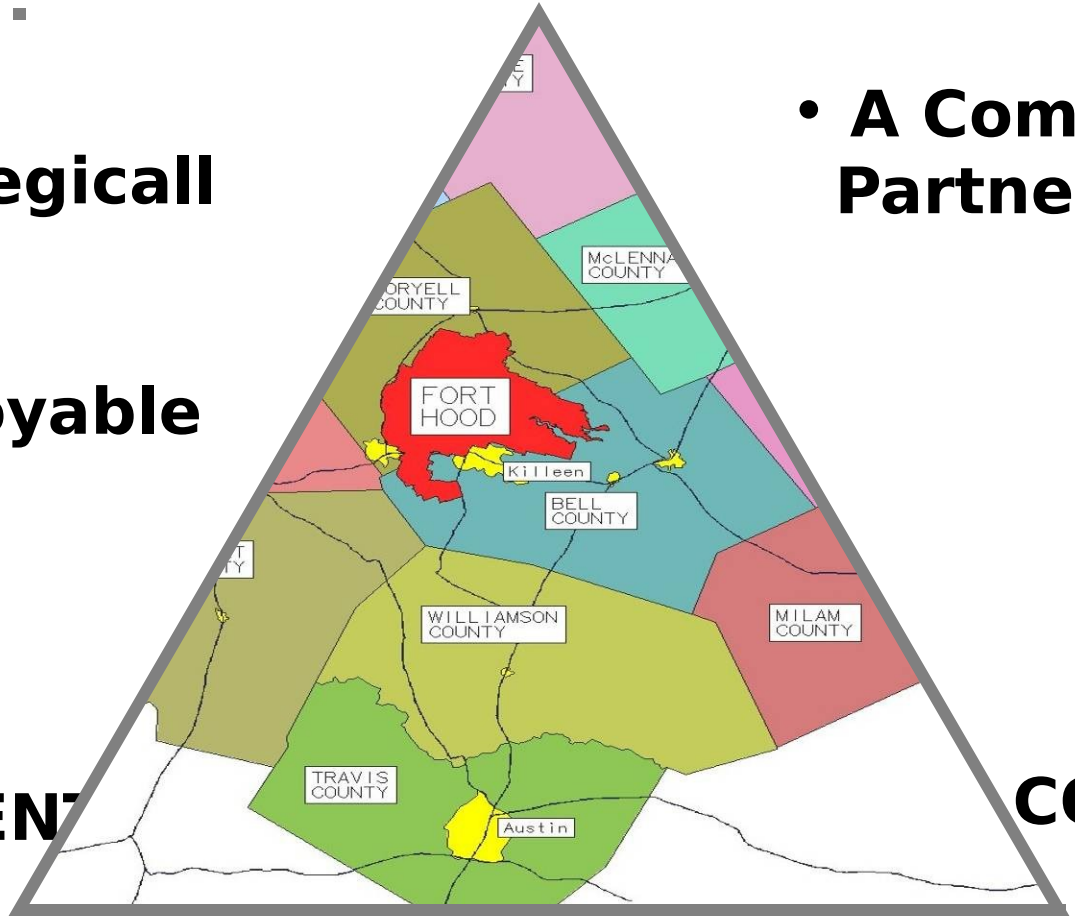
Investing in Our Future Together…

SERO

MISSION READINESS

- Strategically Deployable

- A Community Partner



ENVIRONMENT COMMUNITY

…through regional sustainability

FORT HOOD INSTALLATION SUSTAINABILITY PROGRAM

"Meeting the Needs of the Present without Compromising the Ability of Future Generations to Meet their Own Needs"

Goals for a Sustainable Fort Hood

- *Foster cooperation, share information and coordinate 25-year Sustainability plans through a Regional Sustainability Council.*
- *Fort Hood will actively reduce its impact on regional air quality from all sources.*
- *All infrastructure and energy systems are planned, designed, constructed, and maintained to be sustainable and secure.*
- *Training landscapes managed to support current and future mission requirements while sustaining cultural, natural and land resources.*
- *Provide high quality potable water and reduce consumption while maintaining mission readiness and quality of life.*

Fort Hood Environmental Sustainability Executive Conference

Focus Group Break-Out Sessions

Executive Session

... Having Fun in the Process

Goal Selection

Sustainable Training Areas

Energy

Water Resources

Infrastructure

Products and Materials

Air Quality

egional Land Use Planning

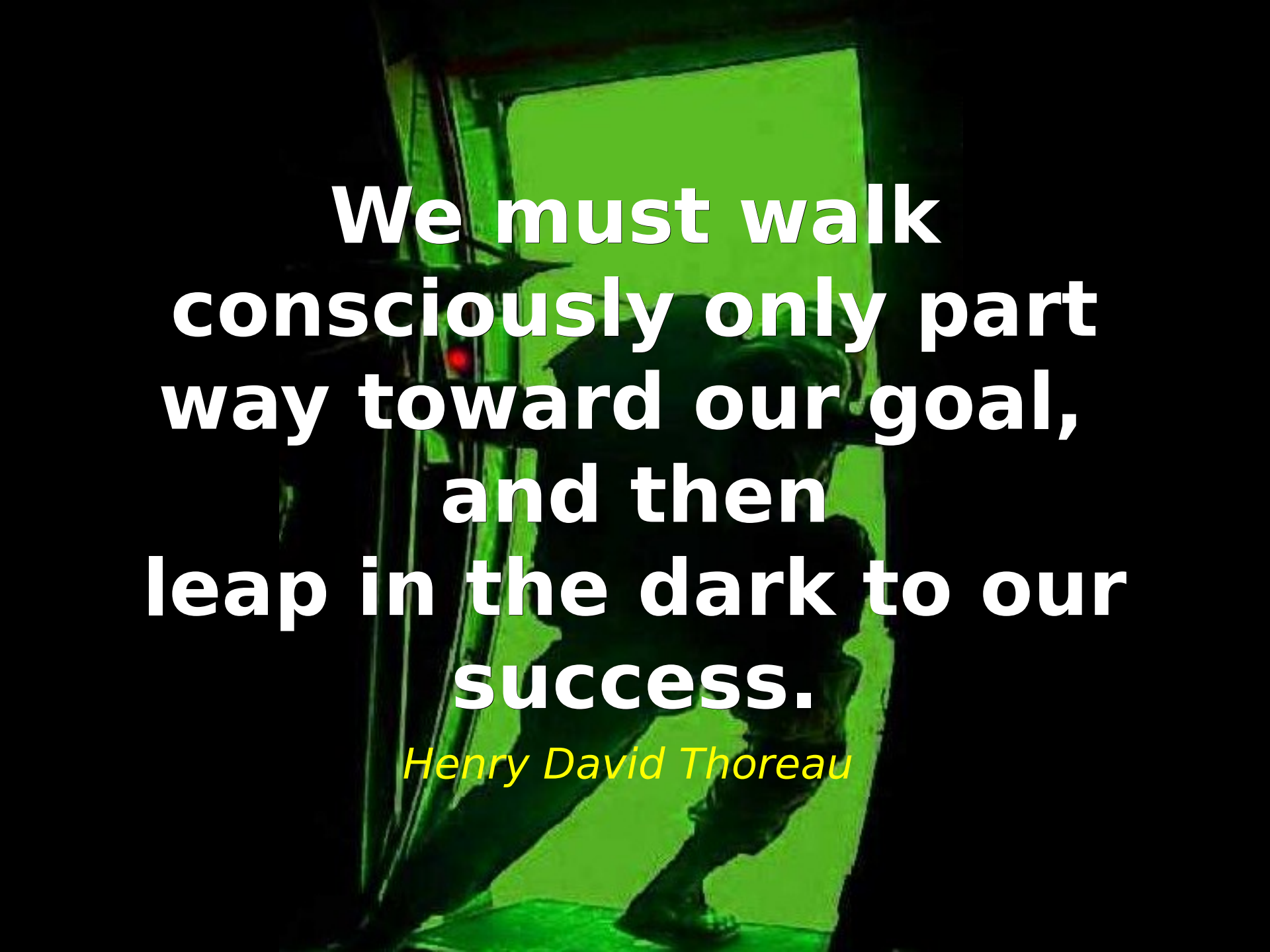
Off-Site Mitigation –

Conservation Easemer

Example:

Private Property
Miller Springs Allian
Leon River Restorati

Goal – Redesignate core habitat to non-core habitat, reduce training restrictions, and develop encroachment buffers.


We must walk consciously only part way toward our goal, and then leap in the dark to our success.
Henry David Thoreau